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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,509	08/05/2003	Keng Yu Shih	W-9459-02	5197

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Howard J. Troffkin  
W. R. Grace & Co.-Conn.  
Patent Dept.  
7500 Grace Drive  
Columbia, MD 21044-4098

EXAMINER

BROWN, JENNINE M .

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/633,509

Applicant(s)

SHIH, KENG YU

Examiner

Jennine M. Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 71-167 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 71-167 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02/06/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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***Information Disclosure Statement***

Neither foreign nor non-patent literature were able to be viewed at this time by the Examiner, therefore these references were not considered. Should applicants require the examiner to view these references, please resubmit foreign or non-patent literature in a separate IDS for future consideration.

***Claim Objections***

Claims 100-131 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. The preamble of the claim is to a catalyst composition but the claims cited refer to a method of making the catalyst and not the catalyst composition itself. As stated in the MPEP, a comparison of the recited process with the prior art processes does NOT serve to resolve the issue concerning patentability of the product. In re Fessman, 489 F2d 742, 180 U.S.P.Q. 324 (CCPA 1974). Whether a product is patentable depends on whether it is known in the art or it is obvious, and is not governed by whether the process by which it is made is patentable. In re Klug, 333 F2d 905, 142 U.S.P.Q. 161 (CCPA 1964). In an ex parte case, product-by-process claims are not construed as being limited to the product formed by the specific process recited. In re Hirao et al., 535 F2d 67, 190 U.S.P.Q. 15, see footnote 3 (CCPA 1976). The examiner suggests making these claims dependent upon independent claim 162, drawn to a process for forming a heterogeneous catalyst, rather than the catalyst composition claims as currently pending. Furthermore, the primary claim preamble of claim 71 requires the catalyst be "formed by contacting substantially simultaneously in a single reaction zone" which is contradicted by these method claims. The Merriam-Webster online dictionary

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defines the term "simultaneous" as "existing or occurring at the same time: exactly coincident" therefore applicants should require no order of mixing of the components.

Claims 72 and 73 should insert "a precatalyst consisting of" or "a precatalyst comprising" between "wherein" and "the transition metal compound" because it is unclear that the precatalyst is identical to the transition metal compound which is the bidentate or tridentate ligand/transition metal complex stated in claim 71.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 72, 73, 134 and 135 all recite "anionic ligand group" in section iii) of their respective claims but "hydrogen" is not an anionic ligand, usually hydrogen in the anionic state is referred to as hydride ion. There is insufficient antecedent basis for "hydrogen" as a limitation in these claims.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 71, 73-77, 79-80, 82-84, 86-87, 88-89, 91-93, 95-105, 107-108, 110-115, 117-118, 120-126, 128-129, 131-133, 135-139, 141-142, 144-146, 148-151, 153-155, 157-167 are rejected under 35 U.S.C. 102(a) as being anticipated by Bennett (US 5955555).

Bennett discloses a catalyst composition for polymerization of olefins comprising an aluminum compound (col. 7, l. 22-25, 41-44), inorganic oxide (silica or alumina – claim 45 – col. 38, l. 31-32), and precatalyst (Co or Fe tridentate imine metallocycle and two anions) present in the amounts claimed and method of making said catalyst (Examples 1-61, col. 13, l. 35 – col. 29, l. 67; see especially Ex. 43-46). The specific properties of the inorganic oxide are dependent upon the material purchased and would be inherently present.

Claims 71-72, 74-78, 80-81, 83-85, 87-90, 92-94, 96-134, 136-140, 142-143, 145-147, 149-152, 154-156, 158-162, 164-167 are rejected under 35 U.S.C. 102(e) as being anticipated by Mackenzie, et al. (US 6303720 B1).

Mackenzie, et al. disclose a catalyst composition for polymerization of olefins comprising an aluminum compound (col. 5, l. 37-45; col. 8, l. 39-52; col. 34, l. 55-60), inorganic oxide (silica – gas phase synthesis – col. 76, l. 55 – col. 77, l. 8), and precatalyst (Group 8-10 transition metal which includes Fe - bidentate imine metallocycle and two anions – col. 3, l. 38 – col. 4, l. 19) present in the amounts claimed and method of making said catalyst (Examples 1-190 – col. 38, l. 5 – col. 87, l. 6). The specific properties of the inorganic oxide are dependent upon the material purchased and would be inherently present.

Claims 71-72, 74-78, 80-81, 83-85, 87-90, 92-94, 96-134, 136-140, 142-143, 145-147, 149-152, 154-156, 158-162, 164-167 are rejected under 35 U.S.C. 102(e) as being anticipated by Ponasik, Jr et al. (US 6365539 B1).

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Ponasik, Jr et al. disclose a catalyst composition for polymerization of olefins comprising an aluminum compound (col. 4, l. 58-64; col. 8, l. 60-65), inorganic oxide (silica – col. 8, l. 66 – col. 9, l. 23), and precatalyst (Group 8-10 transition metal which includes Fe - bidentate imine metallocycle and two anions – col. 3, l. 26 – col. 4, l. 57; col. 9, l. 25-55) present in the amounts claimed and method of making said catalyst (Examples 1-26 – col. 11, l. 6 – col. 19, l. 9). The specific properties of the inorganic oxide are dependent up on the material purchased and would be inherently present.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 71-167 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-81 of US 6686306 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst for olefin polymerization which uses a bidentate or tridentate ligand precatalyst which is activated with an aluminum alkyl compound and an inorganic oxide support material (claims 1-39). Transition metals used overlap with those currently claimed for the precatalyst (claim 2 - Group 2 bidentate and claim 4 – Group 2 tridentate), inorganic oxides may be clays or silicon oxides (claims 12-17) and aluminoxanes (claim 10) are all encompassed

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by the previously published patent. Furthermore a method of making the catalyst are also given (claims 40-81) which overlaps with that given because the materials can be contacted together or separately.

Claims 71-167 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-75 of US 6559090 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst for olefin polymerization which uses a bidentate or tridentate ligand precatalyst which is activated with an aluminum alkyl compound and an inorganic oxide support material (claims 1-39, 71-73, 75). Transition metals used overlap with those currently claimed for the precatalyst, inorganic oxides may be clays or silicon oxides and aluminoxanes are all encompassed by the previously published patent. Furthermore a method of making the catalyst are also given (claims 40-70, 74) which overlaps with that given because the materials can be contacted together or separately.

Claims 71-167 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-64 of US 6399535 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst for olefin polymerization which uses a bidentate or tridentate ligand precatalyst which is activated with an aluminum alkyl compound and an inorganic oxide support material (claims 1-36). Transition metals used overlap with those currently claimed for the precatalyst (claim 3 - Group I bidentate and claim 4 - Group II tridentate), inorganic oxides may be clays or silicon oxides (claim 1 part (II)) and aluminoxanes (claim 2) are all encompassed by the previously published patent. Furthermore a method of making the catalyst

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are also given (claims 37-64) which overlaps with that given because the materials can be contacted together or separately.

Claims 71-161 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-72 of US 6184171 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claim a catalyst for olefin polymerization which uses a bidentate or tridentate ligand precatalyst which is activated with an aluminum alkyl compound and an inorganic oxide support material (claims 1-72). Transition metals used overlap with those currently claimed for the precatalyst (claim 2 - Group III bidentate and claim 17 - Group IV tridentate) and aluminoxanes (claim 8) are all encompassed by the previously published patent. Although the support is not claimed in the patent it would have been obvious to one of ordinary skill in the art to add a support to make the catalyst heterogeneous rather than homogenous to better separate the catalyst from the product it produces.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-F 8:00 AM - 6:00 PM; first Friday off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmb



**Mark L. Bell**  
**Supervisory Patent Examiner**  
**Technology Center 1700**